

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

CIVIL ACTION NO. 10-11571-RWZ

SKYHOOK WIRELESS, INC.

v.

GOOGLE, INC.

Memorandum of Decision

September 14, 2012

ZOBEL, D.J.

I. Introduction

Plaintiff Skyhook Wireless, Inc. (“Skyhook”), has sued defendant Google, Inc. (“Google”), for infringement of U.S. Patents Nos. 7,305,245 (“the ‘245 Patent”); 7,414,988 (“the ‘988 Patent”); 7,433,694 (“the ‘694 Patent”); and, 7,474,897 (“the ‘897 Patent”) (collectively, “the patents-in-suit”).¹ The matter is before the court for claim construction and decision on Google’s motion for summary judgment of indefiniteness (Docket # 41).

The technology at issue relates to the identification, collection, recording, and use of data – here, the location of Wi-Fi access points – to determine the location of a user device with a Wi-Fi radio (e.g., cell phone or tablet). As defined by the parties, a

¹ The title and issue date of patents-in-suit are: “Location-Based Services That Choose Location Algorithms Based on Number of Detected Access Points Within Range of User Device” (‘245 Patent, issued Dec. 4, 2007); “Server for Updating Location Beacon Database” (‘988 Patent, issued Aug. 19, 2008); “Location Beacon Database” (‘694 Patent, issued Oct. 7, 2008); and, “Continuous Data Optimization by Filtering and Positioning Systems” (‘897 Patent, issued Jan. 6, 2009).

Wi-Fi access point is a device operating consistent with the IEEE 802.11 standard to provide network connectivity. Each Wi-Fi access point has a unique identifier called a MAC address and other distinguishing characteristics, which can be used to determine the access point's location. Explained broadly, the Wi-Fi access point locations are collected by scanning vehicles deployed in a target area and equipped with GPS and other technology. The access point locations are maintained in a database which can be accessed by a user device with a Wi-Fi radio to determine the device's location.

The '694 Patent generally claims a database of Wi-Fi access points. It is similar to the '988 Patent, which claims a server comprising a database of Wi-Fi access points and computer-implemented logic for updating the database. The '897 Patent generally claims a method of locating a user device by drawing on data from a reference database of Wi-Fi access points, and knowing which data to use and which to exclude. Finally, the '245 Patent claims a method for locating a user device by, among other things, selecting an algorithm to apply to the available data to determine the device's location.²

The parties filed a Joint Claim Construction and Pre-Hearing Statement (Docket # 62) in which they stipulated to the proper construction of nine claim terms. At a Markman Hearing they continued to dispute the proper construction of twelve claim

² The applications that eventually issued as the '988, '694, and '245 Patents were each filed on October 28, 2005. Each of these three patents claims priority to the same provisional application and they share virtually identical specifications. The '897 Patent is a continuation-in-part of the '245 Patent, incorporates the '245 Patent by reference, col.1 ll.17-20, and states that it is related to the other patents-in-suit, col.1 ll.30-35. For simplicity, when referencing a portion of the common specification relevant to the term at issue, the court will cite only to the '988 Patent, unless otherwise noted.

terms or related groups of terms. The court rules on Google's motion and construction of the disputed terms as follows.³

II. Legal Standard

A. Principles of Claim Construction

Claim construction is purely a matter of law to be decided by a court. Markman v. Westview Instruments, Inc., 517 U.S. 370, 387 (1996). The claims of a patent define the invention. Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). Words of a claim "are generally given their ordinary and customary meaning," id. (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)), that is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." Id. at 1313.

The context in which a term is used in the asserted claim and the other claims of the patent in question often are highly instructive as to the proper construction of a claim term. Id. at 1314-15. In addition, the court must construe claim terms in view of the specification, which is often "the single best guide to the meaning of a disputed term." Id. at 1315. "Idiosyncratic language, highly technical terms, or terms coined by the inventor are best understood by reference to the specification." Intervet Inc. v. Merial Ltd., 617 F.3d 1282, 1287 (Fed. Cir. 2010). A court should also consult the patent's prosecution history, if in evidence. Phillips, 415 F.3d at 1317.

B. Indefiniteness

³ Google styles its claim construction arguments in the alternative.

The claims of a patent must “particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, ¶ 2. This so-called definiteness requirement “assures that claims in a patent are sufficiently precise to permit a potential competitor to determine whether or not he is infringing.” Amgen Inc. v. Hoechst Marion Roussel, Inc., 314 F.3d 1313, 1342 (Fed. Cir. 2003) (internal quotation marks omitted). See also IPXL Holdings, L.L.C. v. Amazon.com, Inc., 430 F.3d 1377, 1383-84 (Fed. Cir. 2005) (“A claim is considered indefinite if it does not reasonably apprise those skilled in the art of its scope.”). Indefiniteness is a question of law. Exxon Res. & Eng'g Co. v. United States, 265 F.3d 1371, 1376 (Fed. Cir. 2001).

A claim is indefinite only if it is “insolubly ambiguous, and no narrowing construction can properly be adopted[.]” Id. at 1375; Honeywell Int'l, Inc. v. Int'l Trade Comm'n, 341 F.3d 1332, 1338-39 (Fed. Cir. 2003). “[C]lose questions of indefiniteness in litigation involving issued patents are properly resolved in favor of the patentee.” Bancorp Services, L.L.C. v. Hartford Life Ins. Co., 359 F.3d 1367, 1371 (Fed. Cir. 2004) (quoting Exxon, 265 F.3d at 1380). “By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of validity and we protect the inventive contribution of patentees, even when the drafting of their patents has been less than ideal.” Datamize, LLC v. Plumtree Software, Inc., 417 F.3d 1342, 1347-48 (Fed. Cir. 2005) (quoting Exxon, 265 F.3d at 1375).

C. Method/Apparatus Claims in the ‘988 and ‘694 Patents

In support of its motion for summary judgment, Google argues that the patents-in-suit are invalid because the asserted independent claim in each patent contains a

term which is indefinite. The court will address these arguments contemporaneously with its discussion of claim construction below.

Google also contends that the '988 and '694 Patents are indefinite and invalid because they claim both an apparatus and method steps for using it. See IPXL, 430 F.3d at 1384 (holding that claiming both an apparatus and a method of using it renders a claim indefinite under 35 U.S.C. § 112, ¶ 2) (citing approvingly the Patent and Trademark Office's Manual of Patent Examination Procedure § 2173.05(p)(II)(1999)).⁴ Specifically, it says that the '988 and '694 Patents claim both a database of Wi-Fi access points and a method of updating the database to include substantially all access points.

The '694 and '988 Patents do not recite an apparatus and method steps for its use; rather, they make product-by-process claims. That is, they claim products – respectively, a database containing calculated position information for Wi-Fi access points, and a server having such a database – defining them in terms of the process by which they are made. See Manual of Patent Examining Procedure § 2173.05(p)(I) (2010) (recognizing such claims as proper); Application of Pilkington, 56 C.C.P.A. 1237, 1242 (U.S. Ct. Cust. and Patent App. 1969) (“By statute, 35 U.S.C. § 112, Congress has placed no limitations on how an applicant claims his invention, so long as the specification concludes with claims which particularly point out and distinctly claim that invention.”); id. (holding that product –by-process claim satisfies definiteness requirement where the difference between the claimed product and the prior art were not “particularly susceptible to definition by the conventional recitation of properties or

⁴ The document's proper title is the Manual of Patent Examining Procedure.

structure”). Here, the information in the database is best described by the terms of the process by which it is collected. See also HTC Corp. v. IPCom GMBH & Co., KG, 667 F.3d 1270, 1277 (Fed. Cir. 2012) (holding that claims did not recite an apparatus (a mobile station) and method steps (six enumerated functions); rather, the claims “merely establish those functions as the underlying network environment in which the mobile station operates”).

III. Claim Construction and Analysis

A. Undisputed Terms

No.	Term	Patent/Claim	Stipulated Construction
1	“Wi-Fi access points”	‘245/1,2 ‘694/1 ‘988/1,3 ‘897/1,3,4	“Devices operating consistent with the IEEE 802.11 standard to provide network connectivity.”
2	“triggering the Wi-Fi device to transmit a request to all Wi-Fi access points within range of the Wi-Fi device”	‘245/1	“Causing the Wi-Fi device to actively search for Wi-Fi access points. The Wi-Fi device transmits a request to all Wi-Fi access points within range of the Wi-Fi device to identify themselves.”
3	“a radius on the order of tens of miles”	‘694/1 ‘988/1	“A radius of ten miles or more but fewer than a hundred miles.”
4	“identification information for a corresponding Wi-Fi access point”	‘694/1 ‘988/1	“An identifier (e.g., a MAC address) for a corresponding Wi-Fi access point.”

5	“WiFi access points having a recorded location within a predefined threshold distance of the reference point”	‘897/3	“WiFi access points having a recorded location that is within a certain distance of the reference point. That distance was previously defined.”
6	“WiFi access points having a recorded location in excess of the predefined threshold distance of the reference point”	‘897/3	“WiFi access points having a recorded location that exceeds a certain distance from the reference point. That distance was previously defined.”
7	“a simple signal strength weighted average model”	‘245/6	“An algorithm that includes taking a simple average of the calculated locations of identified Wi-Fi access points weighted according to a function of their received signal strengths.”
8	“a triangulation technique”	‘245/8	“An algorithm that includes (1) estimating the distances from the user device to at least two identified Wi-Fi access points using their received signal strengths and (2) determining a location based on the estimated distances.”
9	“a weighted centroid position”	‘988/3	“A position determined by weighted averaging of position information.”

B. Disputed Terms

1. “target area”

Term	Court’s Construction
“target area” (‘245/1; ‘694/1,2; ‘988/1)	“A pre-identified geographic area.”

Claim 1 of the ‘245 Patent recites “[a] method of locating a user-device having a Wi-Fi radio, comprising: providing a reference database of calculated locations of Wi-Fi access points in a target area” The term “target area” is referenced multiple times

in claim 1 of the '694 and '988 Patents. The first usage of the term in each patent claim is the most illustrative for claim construction purposes. The '694 Patent claims a "database of Wi-Fi access points for at least one target area having a radius on the order of tens of miles" The '988 Patent uses the same language to describe the database that is part of the Wi-Fi location server recited in claim 1.

The parties agree that the area defined is a "geographic" area. The '988 and '694 Patents' description of the target area as "having a radius on the order of tens of miles" necessarily limits the possible scope of the target area and suggests that it is identified before the scanning occurs. The specifications also support the notion that the "target area" is identified in advance of the scanning or collection of data. See '988 Patent, col.7 ll.37-46 (describing a fleet of scanning vehicles which "follow a programmatic route through target scan areas to gather data in the most optimal fashion producing the highest quality data. The target scan areas typically represent a large metropolitan area including even single drivable street in [sic] 15-20 mile radius. These vehicles are equipped with scanning devices designed to record the locations and characteristics of 802.11 signals while traversing the coverage area.")). Although Skyhook objects to a construction that requires the target area be pre-identified, Skyhook's own papers suggest that the area is identified in advance of the scanning. See Skyhook Opening Cl. Constr. Br. 6 (citing Compact Oxford English Dictionary 2011 (2d ed. 1991) (defining "target" as "[t]o mark out or identify (a place. . .) as a target.")).

Google would require that the target area is that "throughout which a shortest route is planned along all drivable roads." Neither the claim language nor the specification support such a limitation; while the scanning route must be one that covers

all streets in a target area, as discussed below, the route need not be the shortest drivable route.

2. The “arterial bias” terms

Term	Court’s Construction
“arterial bias” (‘694/1 and ‘988/1)	“The deviation of the calculated position information for a Wi-Fi access point toward heavily trafficked roads and away from the actual geographic location of the access point that occurs when data is collected by scanning vehicles that traverse heavily trafficked roads at the expense of smaller, surrounding streets.”
“avoid(s) arterial bias” (‘694/1 and ‘988/1)	“Reduce(s) significantly the effects of arterial bias.”

a. “arterial bias”

The parties agree that “arterial bias” is “the deviation of the calculated position information for a Wi-Fi access point toward heavily trafficked roads and away from the actual geographic location of the access point.” Skyhook disputes Google’s proposed additional limitation: that arterial bias must be “due to the tendency of random scanning to result in a greater number of scans from heavily trafficked roads.”

The inventors coined the term “arterial bias”; it is not a technical term that would be known to a person of ordinary skill in the art. Since the term lacks an ordinary and customary meaning, the court relies heavily on the intrinsic evidence (the claims, specifications, and prosecution history) for construction.

According to the prosecution history of the ‘988 Patent, the inventors claim to be the first to identify the arterial bias problem and offer a solution for it:

The application describes the discovery of the arterial bias problem and the advantages of the solutions devised by the applicants. Namely, by performing a planned audit, and avoiding arterial bias, applicants at least achieve more complete information about access points in the target area, higher quality estimates of access point locations, and reference symmetry.

Docket # 46 Ex. G at GSHFED 189. See also Phillips, 415 F.3d at 1317 (“[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.”). The inventors distinguished the prior art on this basis. Docket # 46 Ex. G at GSHFED 189 (“None of this is taught or suggested by the [prior art].”).

Similarly, the patents’ Discussion of Related Art notes that the patents-in-suit were explicitly addressed at solving the problem of arterial bias. It describes Wi-Fi location systems deployed by Microsoft Corp. and Intel Corp. which use access point locations acquired by “amateur scanners (known as ‘wardrivers’) who submit their Wi-Fi scan data to public community web sites.” ‘988 Patent, col.2 ll.58-62. Such data has several “performance and reliability problems,” id. col.3 ll.2-3, one of which is that

the user-supplied data suffers from arterial bias. Because the data is self-reported by individuals who are not following designed scanning routes, the data tends to aggregate around heavily traffic [sic] areas. Arterial bias causes a resulting location pull towards main arteries regardless of where the user is currently located causing substantial accuracy errors.

Id. col.3 ll.12-18. The specifications elaborate on the problem of “arterial bias,” teaching that the scanning methodology employed greatly affects the quality of the data collected. Id. col.7 ll.52-54.

The specifications describe two data collection methodologies: the “Random Model,” and an alternative approach embraced by the patents-in-suit. The inventors describe the Random Model as generating data that suffers from arterial bias and therefore produces inaccuracies in calculating the position information:

One approach, known as the Random Model, places scanning devices in vehicles as they are conducting daily activities for business or personal use. These vehicles could be delivery trucks, taxi cabs, traveling salesman or just hobbyists. The concept is that over time these vehicles will cover enough streets in their own random fashion in order to build a reliable reference database. The model does in fact provide a simple means to collect data but the quality of the resulting data is negatively affected due to issues of ‘arterial bias.’

Id. col.7 ll.55-63. Specifically, under the Random Model, because the scanning vehicles are traversing routes designed for tasks other than data collection, e.g., delivering packages, or ferrying commuters to and from work, the vehicles tend to traverse main roads. Id. col.7 ll.64 - col.8 ll.4. The resulting data collected by these vehicles shows a “bias to the main roads, or arteries at the expense of the smaller and surrounding roads.” Id. col.8 ll.4-8. Access points which are not located along a main road are not scanned by the scanning vehicles; thus, “when the system attempts to calculate the location of the access point from the scan data it is limited to a biased collection of input data.” Id. col.8 ll.8-19. Since scanning vehicles are “limited to one main road passing by the access point,” the system is forced to “calculate the access point’s location near that road rather than close to the access point itself.” Id. col.8 ll.24-27. Thus, deviation that results from “arterial bias” occurs because data is collected by scanning vehicles that traverse heavily trafficked roads at the expense of smaller, surrounding streets.

b. “avoid(s) arterial bias”

Claim 1 of the '988 Patent teaches that the calculated position information is obtained "so that the calculation of the position of the Wi-Fi access point avoids arterial bias in the calculated position information. . . ." '988 Patent, col.14 ll.28-31 (emphasis added). Similarly, claim 1 of the '694 Patent teaches that the calculated position information is obtained from "recording multiple readings of the Wi-Fi access point at different locations around the Wi-Fi access point so that the multiple readings avoid arterial bias in the calculated position information of the Wi-Fi access point. . . ." '694 Patent, col.14 ll.12-13 (emphasis added).

Google argues that the term is indefinite, yet in the alternative proposes that it be construed to mean "eliminate arterial bias," arguing that the plain and ordinary meaning of "avoid" must be "eliminate." However, the Federal Circuit permits a claim drafter to act as his own lexicographer as long as he clearly defines the terms used in the claims in the patent specification. See Sinorgchem Co., Shandong v. Int'l Trade Comm'n, 511 F.3d 1132, 1136 (Fed. Cir. 2007) (citing CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed. Cir.2002) ("[A] claim term will not receive its ordinary meaning if the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in ... the specification...."), and Vitronics, 90 F.3d at 1582 ("The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.")). See also Phillips, 415 F.3d at 1316 (when the specification reveals a "special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess . . . the inventor's lexicography governs.").

Here, the specifications explain how to “avoid arterial bias”: “Another approach is develop [sic] routing algorithms that include every single street in the target area so as to avoid arterial bias in the resulting collection of data. . . .” ‘988 Patent, col.8 ll.28-31 (emphasis added). The specifications discuss this alternative method of data collection in relative terms. One preferred embodiment of this routing algorithm is the “Chinese Postman” method. Using this method, “[t]he system can then calculate the location of the access point with less error since it has a more uniform distribution of scan data. . . . So the Chinese Postman Scanning model not only gathers more access points uniformly across a target area but the resulting data produces more accurate calculations of access point locations.” Id. col.8 ll.45-59 (emphasis added). Figure 11, which compares and contrasts the effects on the calculated position information of the random scanning model to the Chinese Postman model, teaches that the error between the calculated position location and the actual physical location of the Wi-Fi access point is greatly reduced but not eliminated with the latter model. See id. Fig.11 (showing error of 150 meters under the random model, and an error of 10 meters under the Chinese Postman model). The specification also teaches that improvements in data quality under the Chinese Postman model are relative. See id. col.9 ll.2-6 (“In order to produce the most accurate calculated location for a particular access points [sic] or to create the most accurate power profile, the scanning vehicle must observe the access point from as many different angles as possible.”) (emphasis added); id. col.9 ll.6-19 (additional data collected when all possible routes around an access point are traveled “greatly improves the results of the reverse triangulation formula used to calculate the location of the access points.”) (emphasis added).

Thus, the patents teach that practicing the method of data collection described in the specifications will “avoid arterial bias,” by significantly improving the accuracy of the data collected. They do not require that all error be eliminated. Nor are such relative constructions impermissible given the teaching of the specifications. See Invitrogen Corp. v. Biocrest Mfg., L.P., 327 F.3d 1364, 1370-71 (Fed. Cir. 2003) (affirming construction of “improved competence” as competence that is “generally increased”; rejecting defendant’s argument that “improved competence” required a specific numeric limitation because neither the claim language nor the specification supplied any specific improvement measure).

3. The “location” terms

Term	Court’s Construction
“calculated position information” (‘694/1; ‘988/1)	“Estimated physical location(s) of Wi-Fi access points calculated using characteristics of signals transmitted by such Wi-Fi access points, which Wi-Fi access points have been collected systematically, i.e., in a manner in which all the streets in a target area are covered.”
“calculated locations” (‘245/1,2)	
“calculated position of the Wi-Fi access points” (‘988/3)	
“recorded location information” (‘897/1,3)	

The court construes the four so-called “location” terms to have the same meaning.⁵ See Abtox, Inc. v. Exitron Corp., 131 F.3d 1009, 1010 (Fed. Cir. 1997) (claim terms are to be construed consistently across patents of common ancestry).⁶

The parties agree that the locations/positions are “physical locations.” Google would additionally limit the claim by defining physical location as latitude and longitude.

⁵ Google proposes the same construction for the location terms. Although Skyhook proposes two slightly different constructions, its papers discuss the location terms as one group with the same construction.

⁶ Although the ‘897 Patent refers to “recorded” rather than “calculated” location information, the specification clarifies that the “recorded location information” is “the calculated location for each access point that is known to the system.” ‘897 Patent, col.7 ll.31-34.

Although the specifications discuss location in terms of longitude and latitude, the requirement that the calculated location be the “physical location” provides sufficient clarity without the need to further limit the claim by importing the latitude and longitude limitation into the claim. See Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1303 (Fed. Cir. 1997) (“While examples disclosed in the preferred embodiment may aid in the proper interpretation of a claim term, the scope of a claim is not necessarily limited by such examples.”); Texas Instruments, Inc. v. United States Int’l Trade Comm’n, 805 F.2d 1558, 1563 (Fed. Cir. 1986) (“This court has cautioned against limiting the claimed invention to preferred embodiments or specific examples in the specification.”).

The specifications clarify that the calculated locations are estimated rather than exact. ‘897 Patent, col.8 ll.53-55 (discussing the Quality Filter’s role in “location estimation”); id. col.9 ll.26–31 (discussing the intent of the adaptive filter “to try and use the access points that are nearest to the user/device to provide the highest potential accuracy”); ‘988 Patent, col.9 ll.2-6 (discussing method of collecting data “[i]n order to produce the most accurate calculated location for a particular access points [sic]”); ‘245 Patent, col.8 ll.64-66 (same); ‘694 Patent, col.8 ll.22-26 (same); ‘988 Patent and ‘694 Patent, Fig. 4 (depicting calculated location of access point(s) that does not match actual physical location of access point(s)).

As explained above, the specifications contrast the Random Model of data collection with a model that “include[s] every single street in the target area so as to avoid arterial bias in the resulting collection of data thus producing a more reliable positioning system for the end users.” ‘988 Patent, col.8 ll.28-31. In other words, the way to avoid arterial bias in the data set collected is to drive “every single street in the

target area.” Since the inventors denigrate the Random Model as introducing arterial bias into the data set – the very problem which the patents aim to solve – they have disavowed the Random Model of scanning. See Honeywell Int’l, Inc. v. ITT Indus. Inc., 452 F.3d 1312, 1320 (Fed. Cir. 2006) (“[Written description’s] repeated derogatory statements concerning one type of material are the equivalent of disavowal of that subject matter from the scope of the patent’s claims.”). The patents-in-suit therefore require that the data be collected systematically, i.e., by covering every street in a target area.

Google would also require that the location information be “determined mathematically from readings recorded along a shortest planned route throughout all drivable roads in the target area (i.e., by following the Chinese Postman routing algorithm).” Disavowal of the Random Model does not necessarily require that the court adopt Google’s preferred construction, requiring that the data be collected via the Chinese Postman model. The specifications identify the “Chinese Postman” as one such “optimized routing algorithm” which “calculate[s] the most efficient driving route for covering every single street in a target area.” ‘988 Patent, col.8 ll.32-34. See also id. col.8 ll.41-44 (“Preferred embodiments of the invention include a methodology for identifying a target region for coverage and then using the Chinese Postman routing algorithm for planning the vehicle route.”); id. Fig. 4 and col.5 ll.1-3 (describing Figure 4, entitled “Chinese Postman routing,” as “depict[ing] an example using a programmatic route for a scanning vehicle according to certain embodiments of the invention.”). Google argues that during prosecution of the ‘988 and ‘694 Patents, the inventors disavowed all methods of data collection other than the Chinese Postman model.

Google Mem. Supp. Mot. Summ. J. at 26-30 (citing prosecution history of ‘988 and ‘694 Patents). Yet, its references to the prosecution history fundamentally require only that data be collected in a “systematic fashion” through “planned audit”; none of the references mentions the Chinese Postman model, much less embraces it at the expense of other methods of data collection. Although the Chinese Postman routing algorithm is the only preferred embodiment described in the specification, it would be improper to import this limitation into the claim where the patent does not clearly disavow or exclude other routing algorithms that include every street in the target area. See Phillips, 415 F.3d at 1323 (“[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments.”); Gemstar-TV Guide Int’l, Inc. v. Int’l Trade Comm’n, 383 F.3d 1352, 1366 (Fed. Cir. 2004) (“Our precedent has emphasized that the disclosure in the written description of a single embodiment does not limit the claimed invention to the features described in the disclosed embodiment.”); id. (“Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using ‘words or expressions of manifest exclusion or restriction.’”) (quoting Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 (Fed. Cir. 2004)).

4. “Reference symmetry” terms

Term	Court’s Construction
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“reference symmetry” (‘694/1; ‘988/1)	“the distribution of observed Wi-Fi access points within range of a user device’s Wi-Fi radio wherein such Wi-Fi access points were obtained by scanning for Wi-Fi access points along every single street in the target area”
“wherein the database records for substantially all Wi-Fi access points in the target area provide reference symmetry within the target area” (‘694/1)	“wherein the database records for substantially all Wi-Fi access points in the target area provide reference symmetry within the target area relative to a user device”
“recording multiple readings of the Wi-Fi access point so that the multiple readings have reference symmetry relative to other Wi-Fi access points in the target area” (‘988/1)	Indefinite under 35 U.S.C. § 112, ¶ 2.

a. “reference symmetry”

Google argues that the “reference symmetry” limitations are unintelligible and therefore indefinite. Skyhook concedes that “the plain and ordinary meaning of ‘reference symmetry’ does not shed sufficient light on the meaning of this claim term,” Skyhook Opening Cl. Constr. Br. 17, and directs the court to a portion of the common specification entitled “Reference Symmetry” which, it argues, clearly defines the term.

Reference symmetry is mentioned in the first claim of both the ‘988 and ‘694 Patents. Claim 1 of the ‘988 Patent requires that the calculated position information of the Wi-Fi access point is “obtained from recording multiple readings of the Wi-Fi access point at different locations around the Wi-Fi access point so that the multiple readings have reference symmetry relative to other Wi-Fi access points in the target area. . . .” (emphasis added). Claim 1 of the ‘694 Patent, on the other hand, requires that the “database records for substantially all Wi-Fi access points in the target area provide reference symmetry within the target area.” (emphasis added). Since the claims in the

two patents do not define reference symmetry, nor do they appear to use the term in a consistent way, the court looks to the specifications for clarity.

The specifications explain that the Wi-Fi access points have (or lack) reference symmetry relative to a user device. See, e.g., '988 Patent, col.9 ll.55-57 ("Significant errors occur . . . when the reference points lack balance or symmetry around the user."); id. col.9 ll.61-64 (describing a scenario where "the end user moves into physical areas in which there are only recorded access point locations on one side of them. This lack of symmetry in the distribution of reference points around the end user causes the positioning algorithms to calculate the device location with a great deal of error.") (all emphasis added).

The specifications further define "reference symmetry" by describing its converse; that is, lack of reference symmetry occurs when there are only recorded access point locations on one side of the user. See id. col.9 ll.55-61. This lack of reference symmetry results in significant error in calculating the location of the user device. Id. col.9 ll.55-64. The patent then poses a solution that will achieve reference symmetry: "With [sic] Chinese Postman model of scanning for access points, the user typically encounters a physical location in which there are numerous access point locations on all sides of the user within the range of the device's 802.11 radio. The resulting position calculation has reduced location bias and is more accurate as a result." Id. col.9 ll.66-col.10 ll.3. Thus, reference symmetry is the distribution of observed Wi-Fi access points around the user that results when access points are collected by scanning along every single street in the target area (an optimized algorithm for which is the Chinese Postman model).

b. “wherein the database records for substantially all Wi-Fi access points in the target area provide reference symmetry within the target area”

Google argues that this term is indefinite because it fails to provide a reference point for the thing which is being provided with reference symmetry. However, as explained above, the specifications teach, and the court’s construction reflects, that reference symmetry is determined relative to a user. Thus, a person of ordinary skill in the art reading the patent would understand that reference symmetry is being provided relative to the user device. Energizer Holdings, Inc. v. Int’l Trade Comm’n, 435 F.3d 1366, 1369 (Fed. Cir. 2006) (in conducting indefiniteness analysis, court must determine “whether a person experienced in the field of the invention would understand the scope of the claim when read in light of the specification”) (citing Howmedica Osteonics Corp. v. Tranquil Prospects, Ltd., 401 F.3d 1367, 1371 (Fed. Cir. 2005) (claim not indefinite due to ambiguity when meaning readily ascertained from the description in the specification)).

c. “recording multiple readings of the Wi-Fi access point so that the multiple readings have reference symmetry relative to other Wi-Fi access points in the target area”

The ‘988 Patent requires the Wi-Fi access point readings to “have reference symmetry relative to other Wi-Fi access points.” This requirement is nonsensical given that, as discussed above, the specification consistently teaches that reference symmetry is a characteristic of the Wi-Fi access point distribution around a user device. Skyhook claims that the prosecution history of the ‘988 Patent explains what the applicants meant by “reference symmetry” in claim 1 of the ‘988 Patent:

As explained in greater detail in the application, significant errors in position calculation can result when the reference points used for the

calculation lack symmetry around the physical location of the device performing the calculation. Unsymmetrical location data (or “arterial bias”) occurs when individuals (e.g., wardrivers) collect location data for Wi-Fi access points without following designated scanning routes. Such data tends to aggregate around heavily traffic [sic] areas (or “arteries”). Attempting to use arterially biased data to estimate the location of a mobile device causes a “location pull” towards the main arteries regardless of where the user is currently located. This causes substantial accuracy errors in the location estimation.

Docket # 46 Ex. G GSHFED 188. It cites this reference to support its claim that symmetry can relate to both “(1) the distribution of Wi-Fi access points around the device performing the calculation and (2) the distribution of Wi-Fi access points throughout a target area, as shown in Figure 3 of the patents.” Skyhook Opp. to Google Mot. Summ. J. 15 (Docket # 53).

This argument cannot be reconciled with the language ultimately used in the common specification, in which reference symmetry is always discussed as the former (the distribution of Wi-Fi access points around the user device performing the calculation) and not the latter (the general distribution of Wi-Fi access points in the target area). Also, the prosecution history conflates reference symmetry and arterial bias, while the specification teaches that the two are separate concepts. The specification must control for claim construction purposes. See Phillips, 415 F.3d at 1317 (“[B]ecause the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.”). Indeed, in its papers Skyhook asks the court to use the definition of reference symmetry provided in the specification.

Skyhook also urges the court to construe “have” as “to produce.” Skyhook Opening Cl. Constr. Br. 23 and Ex. 10 (Docket # 49) (citing to The Cassell Dictionary

and Thesaurus 510-11 (1999)). The '988 Patent does not support such a strained reading of the word "have."⁷ Nor does such a meaning comport with the definition of "reference symmetry" in the common specification, Phillips, 415 F.3d at 1322-23 ("Judges . . . may. . . rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents."), or with claim 1 of the '694 patent, which as explained above, uses the term "reference symmetry" in a contrary way. See Omega Eng'g Inc., v. Raytek Corp., 334 F.3d 1314, 1334 (Fed. Cir. 2003) ("[W]e presume, unless otherwise compelled, that the same claim term in the same patent or related patents carries the same construed meaning."). The common, natural, and correct reading of "have" in the context of the patent is the first definition offered by the Cassell Dictionary: "to possess." Since it is impossible for the Wi-Fi access points simultaneously to provide reference symmetry relative to a user (as the '694 Patent requires) and to have (i.e., possess) reference symmetry relative to other Wi-Fi access points, the term in the '988 Patent is insolubly ambiguous and therefore indefinite as a matter of law.

5. "Recording multiple readings" terms

Term	Court's Construction
"recording multiple readings of the Wi-Fi access point at different locations around the Wi-Fi access point so that the multiple readings avoid arterial bias in the calculated position information of the Wi-Fi access point" ('694/1)	No need to construe, given the court's construction of "arterial bias," <u>supra</u> Part III.B.2.

⁷ The complete definition which Skyhook quotes is "bear, be delivered of, bring into the world, give birth to, produce." Cassell Dictionary 510.

“recording multiple readings of the Wi-Fi access point at different locations around the Wi-Fi access point . . . so that the calculation of the position of the Wi-Fi access point avoids arterial bias in the calculated position information” (‘988/1)	No need to construe, given the court’s construction of “arterial bias,” <u>supra</u> Part III.B.2.
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6. “substantially all Wi-Fi access points in the target area”

Term	Court’s Construction
“substantially all Wi-Fi access points in the target area” (‘694/1; ‘988/1)	No construction necessary.

Claim 1 of both the ‘694 and the ‘988 Patents requires the database to contain records “for substantially all Wi-Fi access points in the target area.” As discussed above, claim 1 of the ‘694 Patent also teaches that “substantially all Wi-Fi access points in the target area provide reference symmetry within the target area.” Skyhook proposes that the term be construed as “substantially all observed Wi-Fi access points,” citing to portions of the specification that teach that the Wi-Fi access points referred to in the claims are those which are “observable.” See, e.g., ‘988 Patent, col.8 ll.44-47 (scanning vehicle ensures “that all observable access points are detected and mapped by the system”). “Observed” and “observable” describe two very different concepts; thus, Skyhook’s proposed construction is inconsistent with the specification. Moreover, the court will not re-write the claim. K-2 Corp. v. Salomon S.A., 191 F.3d 1356, 1364 (Fed. Cir. 1999) (“Courts do not rewrite claims; instead, we give effect to the terms chosen by the patentee.”).

For its part, Google would construe the term as “all but an insignificant number of Wi-Fi access points in the target area.” The court sees no difference between

“substantially all” and “all but an insignificant number,” and the latter term provides no additional clarity. The term does not require construction.

7. “providing a reference database of calculated locations of Wi-Fi access points in the target area”

Term	Court’s Construction
“providing a reference database of calculated locations of Wi-Fi access points in a target area” (‘245/1)	No need to construe given court’s construction of “calculated locations” and “target area” <u>supra</u> Parts III.B.1,3.

Google would additionally require that the database contain “calculated locations for all the Wi-Fi access points” collected in a target area. Such a limitation is not supported by the claim language or specification.

8. “said chosen algorithm being suited for the number of identified Wi-Fi access points”

Term	Court’s Construction
“said chosen algorithm being suited for the number of identified Wi-Fi access points” (‘245/1)	Indefinite under 35 U.S.C. § 112, ¶ 2.

Claim 1 of the ‘245 Patent recites a “method of locating a user-device having a Wi-Fi radio, comprising” a number of steps, col.14 ll.4-5, including “receiving messages from the Wi-Fi access points within range of the Wi-Fi device, each message identifying the Wi-Fi access point sending the message.” Id. col.14 ll.12-14. The method in Claim 1 also requires, “[1]⁸ based on the number of Wi-Fi access points identified via received messages, [2] choosing a corresponding location-determination algorithm from a plurality of location-determination algorithms, [3] said chosen algorithm being suited for

⁸ All bracketed numbers have been inserted by the court to facilitate discussion.

the number of identified Wi-Fi access points[.] [“the ‘suited for’ term”]” Id. col.14 ll.19-23.

Google argues that the “suited for” term is indefinite because it fails to apprise one of ordinary skill in the art which algorithm is “suited for” a particular number of identified Wi-Fi access points. Skyhook responds that the term need not be construed at all, but if it is, Skyhook urges the court to adopt a construction that simply rearranges the claim language. It contends that “suited” has a widely-understood definition of “[t]o be fitted or adapted to.” Skyhook Opening Cl. Constr. Br. 11 (citing Compact Oxford English Dictionary (2d ed. 1991) at 1956-57, subpage 149). Further, it argues that the patent specification

clearly states that ‘[d]ifferent algorithms perform better under different scenarios,’ and that the algorithm decision is ‘based on,’ or ‘driven by,’ the number of identified access points. [citing ‘245 Patent, col.5 ll.45-48 and col.7 ll.11-13.] In other words, the chosen location-determination algorithm is suited for or selected based on the number of Wi-Fi access points that are identified.

Id. 11 (emphasis added).

If the term “suited for” is synonymous with “selected based on,” as Skyhook’s papers suggest, then the entire “suited for” term is superfluous given the claim’s earlier requirement that the location-determination algorithm be chosen “based on the number of Wi-Fi access points identified via received messages.” Such a construction is not permissible. See Haemonetics Corp. v. Baxter Healthcare Corp., 607 F.3d 776, 781 (Fed. Cir. 2010) (“[W]e construe claims with an eye toward giving effect to all of their terms, even if it renders the claims inoperable or invalid.”) (internal citations omitted); Elekta Instrument S.A. v. O.U.R. Scientific Intern., Inc., 214 F.3d 1302, 1307 (Fed. Cir. 2000) (construing claim to avoid rendering 30 degree claim limitation superfluous).

The intrinsic evidence, however, offers no alternative meaning of the “suited for” term. Instead, as Skyhook’s papers indicate, the intrinsic evidence only reinforces the claim’s requirement that the location-determination algorithm is based on the number of access points identified. See ‘245 Patent, col.5 ll.45-48 (explaining that the “location-determination algorithm will be based on the number of Wi-Fi access points identified or detected when a location request is made. . . .”); id. col.7 ll.11-13 (stating that “different algorithms perform better under different scenarios” and that the “decision of which algorithm to use is driven by the number of access points observed and the user case application using it”).

Extrinsic evidence offers an alternative definition of “suited for” as “to make appropriate,” “fulfill,” or “satisfy.” See Webster’s II New College Dictionary 1103 (2001) (defining “suited” as “to fulfill the requirements of,” “accommodate”; “[t]o make appropriate or suitable”; “[t]o please”; “satisfy”). Yet, the dictionary definition must be viewed in light of the context of the patent. Phillips, 415 F.3d at 1322-23 (permitting court to consult dictionary definitions when construing claim terms “so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents”). Here, the patent only discusses the selection of the location-determination algorithm as determined by the number of identified Wi-Fi access points. Thus, any algorithm that is “appropriate” or “satisfactory,” i.e., suited for, the number of identified Wi-Fi access points is an algorithm that has been chosen based on the number of identified access points. This is the only reasonable interpretation of the “suited for” term; indeed, it is the only meaning which plaintiff proposes.

Since such a construction would render the term superfluous, and the court is left with no alternative construction, the term is insolubly ambiguous and therefore indefinite. Haemonetics, 607 F.3d at 781 (holding that notice function of patent claims would be undermined if courts construed claims so as to render claim language superfluous); Bicon, Inc. v. Straumann Co., 441 F.3d 945, 950 (Fed. Cir. 2006) (“Allowing a patentee to argue that physical structures and characteristics specifically described in a claim are merely superfluous would render the scope of the patent ambiguous, leaving examiners and the public to guess about which claim language the drafter deems necessary to his claimed invention and which language is merely superfluous, nonlimiting elaboration.”).

9. The “logic” terms

Term	Court’s Construction
“computer-implemented logic to add records to the database for newly-discovered Wi-Fi access points” (‘988/1)	No need to construe, given the court’s determination that the term is not subject to 35 U.S.C. § 112, ¶ 6.
“logic to recalculate position information for Wi-Fi access points previously stored in the database to utilize position information for the newly-discovered readings of previously stored Wi-Fi access points” (‘988/1)	No need to construe, given the court’s determination that the term is not subject to 35 U.S.C. § 112, ¶ 6.
“computer-implemented clustering logic to identify position information based on error prone GPS information” (‘988/2)	No need to construe, given the court’s determination that the term is not subject to 35 U.S.C. § 112, ¶ 6.
“logic to determine a weighted centroid position for all position information reported for an access point” (‘988/3)	No need to construe, given the court’s determination that the term is not subject to 35 U.S.C. § 112, ¶ 6.

“logic to identify position information that exceeds a statistically-based deviation threshold amount away from the centroid position” (‘988/3)	No need to construe, given the court’s determination that the term is not subject to 35 U.S.C. § 112, ¶ 6.
“the clustering logic . . . excludes such deviating position information from the database and from influencing the calculated positions of the Wi-Fi access points” (‘988/3)	No need to construe, given the court’s determination that the term is not subject to 35 U.S.C. § 112, ¶ 6.

Claims 1-3 of the ‘988 Patent contain six so-called “logic” terms. Claim 1 recites a Wi-Fi location server comprising a database of Wi-Fi access points and

[1] computer-implemented logic to add records to the database for newly-discovered Wi-Fi access points said computer logic including [2] logic to recalculate position information for Wi-Fi access points previously stored in the database to utilize position information for the newly-discovered readings of previously stored Wi-Fi access points.

Claims 2 and 3 recite

2. The server of claim 1 further including [3] computer-implemented clustering logic to identify position information based on error prone GPS information.

3. The server of claim 2 wherein the clustering logic includes [4] logic to determine a weighted centroid position for all position information reported for an access point and [5] logic to identify position information that exceeds a statistically-based deviation threshold amount away from the centroid position and [6] excludes such deviating position information from the database and from influencing the calculated positions of the Wi-Fi access points.

Google contends that each of the logic terms is a means-plus-function limitation subject to 35 U.S.C. § 112, ¶ 6, which permits an inventor to use a generic means expression for a claim limitation provided that the corresponding structure is identified in the specification. See 35 U.S.C. § 112, ¶ 6 (“An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be

construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.”). Google argues that each logic term is indefinite because it claims a means (“logic”) to perform a specified function without disclosing a corresponding structure. Skyhook responds that the logic terms are not means-plus-function limitations, and even if they are construed as such, the patent recites sufficient structure to satisfy the statute.

Since the logic terms do not use the word “means,” there is a rebuttable presumption that section 112, paragraph 6 does not apply. CCS Fitness, 288 F.3d at 1369; Al-Site Corp. v. VSI Intern., Inc., 174 F.3d 1308, 1318 (Fed. Cir. 1999). Google can rebut this presumption “if it demonstrates that the claim term fails to recite sufficiently definite structure or else recites a function without reciting sufficient structure for performing that function.” CCS Fitness, 288 F.3d at 1369 (internal quotation marks omitted).

To aid in determining whether a claim term recites sufficient structure, the court “inquires into whether the ‘term, as the name for the structure, has a reasonably well understood meaning in the art,’ keeping in mind that a claim term ‘need not call to mind a single well-defined structure’ to fall within the ambit of § 112, ¶ 6.” Apex Inc. v. Raritan Computer, Inc., 325 F.3d 1364, 1372 (Fed. Cir. 2003) (quoting Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583 (Fed. Cir. 1996)). The Greenberg court construed “detent mechanism” as not invoking section 112, paragraph 6, even though dictionary definitions were expressed in functional terms, because the definitions made clear that “detent” was generally understood in the mechanical arts to describe structure. 91 F.3d at 1583.

Here, the term “logic” has a known structural meaning in the context of computer science. See The American Heritage College Dictionary 797 (3d ed. 1997) (defining “logic” as “a. The nonarithmetic operations performed by a computer, such as sorting, that involve yes-no decisions. b. Computer circuitry.”); Wiley Electrical and Electronics Engineering Dictionary 432 (2004) (explaining that the term “logic” is “[a]lso called computer logic,” and defining it as “1. The functions performed by a computer which involve operations such as mathematical computations and true/false comparisons. . . . 2. The circuits in a computer which enable the performance of logic functions or operations, such as AND, OR, and NOT. These include gates and flip-flops. Also, the manner in which these circuits are arranged. . . . 3. The totality of the circuitry contained in a computer.”); McGraw-Hill Dictionary of Scientific and Technical Terms 1101 (4th ed. 1989) (“1. The basic principles and applications of truth tables, interconnections of on/off circuit elements, and other factors involved in mathematical computation in a computer. 2. General term for the various types of gates, flip-flops, and other on/off circuits used to perform problem-solving functions in a digital computer.”). Google itself proffers a dictionary which defines “logic” using structural terms. See The Compact Oxford English Dictionary 1108 (2d ed.) (“The system or principles underlying the representation of logical operations and two-valued variables by electrical or other physical signals and their interactions; the forms and interconnections of logic elements in any particular piece of equipment, in so far as they relate to the interaction of signals and not to the physical nature of the components used; also, the actual components and circuitry; local operations collectively, as performed by electronic or other devices.”).

Moreover, the claim language establishes that the logic must be “computer-implemented,” further conveying structure. Although the logic is intended to perform a function, the term “logic” connotes structure and is not “purely functional.” Phillips, 415 F.3d at 1311 (holding that while the baffles in the patent-in-issue “are clearly intended to perform several functions, the term ‘baffles’ is nonetheless structural; it is not a purely functional placeholder in which structure is filled in by the specification.”). The “logic” terms are not subject to section 112, paragraph 6.

Save for logic term 3, which is discussed below, Google does not dispute the construction of the logic terms on any other basis. Given the above analysis, logic terms 1-2 and 4-6 require no further construction.

Google argues that logic term 3 is indefinite because it fails to apprise a person of ordinary skill in the art what constitutes “error prone GPS information.” “Error prone GPS information” is easily understood and needs no elaborate interpretation; it is GPS information that is likely to be erroneous. See Phillips, 415 F.3d at 1314 (“In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.”). Furthermore, the specification gives an example of such erroneous information and discusses the process by which these records are identified and dealt with. ‘988 Patent, col.12 ll.1-20 (explaining that the “GPS receiver may record erroneous or error records for some time which could negatively affect the final access point location calculation”; giving an example of “outlier” GPS readings that are “removed by the filter and stored in a corrupted table of the database for further

analysis”). Given the teachings of the specification and the commonly understood meaning of “error prone,” the term requires no further construction.

10. “Rules” and “predefined rules”

Term	Court’s Construction
“using the recorded location information for each of the observed WiFi access points in conjunction with predefined rules to determine whether an observed WiFi access point should be included or excluded from a set of WiFi access points” (‘897/1)	No construction necessary.
“rules to determine a reference point and to compare the recorded location information for each of the observed WiFi access points to the reference point” (‘897/3)	No construction necessary.

Claim 1 of the ‘897 Patent recites a method of calculating the position of WiFi-enabled devices comprising certain acts, including:

- a) a WiFi-enabled device communicating with WiFi access points within range of the WiFi-enabled devices so that observed WiFi access points identify themselves;
- b) accessing a reference database to obtain information specifying a recorded location for each observed WiFi access point;
- c) using the recorded location information for each of the observed WiFi access points in conjunction with predefined rules to determine whether an observed WiFi access point should be included or excluded from a set of WiFi access points;
- d) using the recorded location information of only the WiFi access points included in the set and omitting the recorded location information of the excluded WiFi access points to calculate the geographical position of the WiFi-enabled device.

Claim 3 recites

the method of claim 1 wherein the predefined rules include rules to determine a reference point and to compare the recorded location information for each of the observed WiFi access points to the reference point, and wherein WiFi access points having a recorded location within a

predefined threshold distance of the reference point are included in the[set and wherein WiFi access points having a recorded location in excess of the predefined threshold distance of the reference point are excluded from the set.

For ease of discussion, I refer to the underlined terms as the “rules” terms. Google argues that the rules terms are indefinite because they fail to apprise a person of ordinary skill in the art of the scope of the claim. It argues that “a ‘rule,’ even a predefined one, could be literally any criteria: whether the dog wagged her tail, whether it is Tuesday, whether the sun rose this morning. . . . [T]he patent sheds no light on what constitutes a ‘rule’ within the meaning of the patent. . . .” Google Mem. Supp. Summ. J. 22 (Docket # 42).

Google’s invalidity argument rests not on the construction of “rules” or “predefined rules,” but on its contention that the patent appears to claim every possible “rule” for determining whether an access point should be included or excluded from a set, or for comparing the recorded location information of the observed Wi-Fi access points to the reference point. This argument is properly related to questions regarding lack of enablement and lack of an adequate written description under 35 U.S.C. § 112, ¶ 1, see Ariad Pharmaceuticals, Inc. v. Eli Lilly and Co., 598 F.3d 1336, 1340 (Fed. Cir. 2010) (en banc) (holding that section 112, paragraph 1 contains a written description requirement separate from an enablement requirement), and not to matters of claim construction or indefiniteness under 35 U.S.C. § 112, ¶ 2. See Praxair, Inc. v. ATMI, Inc., 543 F.3d 1306, 1319 (Fed. Cir. 2008) (“Indefiniteness is a matter of claim construction, and the same principles that generally govern claim construction are applicable to determining whether allegedly indefinite claim language is subject to construction.”).

11. “in response to a user application request to determine a location of a user-device having a Wi-Fi radio”

Term	Court’s Construction
“in response to a user application request to determine a location of a user-device having a Wi-Fi radio” (‘245/1)	“in response to a request made by an application running on a user-device having a Wi-Fi radio to determine the location of the user-device”
“a user-device having a Wi-Fi radio” (‘245/1)	No construction necessary.

a. “. . . user application request . . .”

Claim 1 of the ‘245 Patent recites a

method of locating a user-device having a Wi-Fi radio, comprising: [1] providing a reference database of calculated locations of Wi-Fi access points in a target area; [2] in response to a user application request to determine a location of a user-device having a Wi-Fi radio triggering the Wi-Fi device to transmit a request to all Wi-Fi access points within range of the Wi-Fi device. . . .

The nub of the parties’ dispute is the meaning of “user application.” Google contends that a “user application” is an “end-user facing application, i.e., not the operating system”; Skyhook counters that the term means “an application running on a user device having a Wi-Fi radio.”

The claim uses the term “user application.” It does not use the term end-user and should not be limited as such, given that the patent specification uses both the term “user” and “end-user.” ‘245 Patent, col.5 ll.37-40 (“[T]his larger set of more precise data may be used by location services to more precisely locate a user device utilizing preferred embodiments of the invention.”); id. col.6 ll.3-7 (“Using these known locations, the client software calculates the relative position of the user device and determines its geographic coordinates in the form of latitude and longitude readings.”); id. col.6 ll.12-16 (“Typically there is an application or service that utilizes location readings to provide

some value to an end user. . . . This location application makes a request of the positioning software for the location of the device at that particular moment.”). Google’s proposed limitation – “end-user facing application, i.e., not the operating system”– is not mentioned in the patent and would only complicate the term.

b. “a user device having a Wi-Fi radio”

Google would construe “user device” as an “end-user or consumer device” with a Wi-Fi radio. These limitations are likewise unsupported by the claim language or the specification.

12. “a WiFi-enabled device communicating with WiFi access points within range of the WiFi-enabled device so that observed WiFi access points identify themselves”

Term	Court’s Construction
“a WiFi-enabled device communicating with WiFi access points within range of the WiFi-enabled device so that observed WiFi access points identify themselves” (‘897/1)	“A user device having a Wi-Fi radio communicates with Wi-Fi access points within range of the user device. Communications received by the user device include an identifier (e.g., a MAC address) for observed Wi-Fi access points.”

At issue is subpart (a) of Claim 1 of the ‘897 Patent, which is recited in full supra Part III.B.10. The parties disagree on whether the claim requires that the user device actively scan for access points or whether the claim also permits the device to passively monitor for access points. Google’s proposed construction would limit the term to require only active scanning while Skyhook’s construction permits both passive and active scanning.

Both methods of communication are contemplated by and discussed in the specification, which teaches that the Wi-Fi access points broadcast information using a

common signal that is detected by the user (or “client”) device. ‘897 Patent, col.6 ll.50-53.

The client device monitors the broadcast signal or requests its transmission via a probe request. Each access point contains a unique hardware identifier known as a MAC address. The client positioning software receives signal beacons or probe responses from the 802.11 access points in range and calculates the geographic location of the computing device using characteristics from the received signal beacons or probe responses.

Id. col.6 ll.53-59. In other words, the Wi-Fi access points can identify themselves either by sending out a broadcast signal or “signal beacon” that is passively monitored by a user device, or by responding to an active probe request from a user device. Either method constitutes “communication” – the exchange of information – between a Wi-Fi enabled device and a Wi-Fi access point.

Google argues that the term necessarily defines only active scanning because “the WiFi enabled device communicates with WiFi access points . . . so that observed WiFi access points identify themselves.” This construction presumes that “communication” occurs only when a user device requests information from an access point, which is neither consistent with the readily apparent meaning of “communication,” nor with the discussion of the communication between the user device and the access point as described in the specification.

IV. Conclusion

Each of the sole independent claims asserted in the ‘245 and ‘988 Patents contains a claim term which is indefinite under 35 U.S.C. § 112, ¶ 2. Thus, the ‘245 and ‘988 Patents are invalid for indefiniteness. Google’s Motion for Summary Judgment of

Indefiniteness (Docket # 41) is therefore ALLOWED as to the '988 and '245 Patents and DENIED as to the '897 and '694 Patents.

September 14, 2012

DATE

/s/Rya W. Zobel

RYA W. ZOBEL

UNITED STATES DISTRICT JUDGE